THE BUILDING MEANING PROJECT

If We Can Build Meaning, We Can Build a Workforce

By Ray Pennings and Brian Dijkema

CARDUS

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Dear friends,

There has been more talk about the skilled trades in the last five years than there has been in recent memory. This talk has included a wide range of stakeholders: construction associations, manufacturers, labour unions, owners, governments, executives, educators, business associations, and many others. This talk also involves voices from the skilled trades that have previously received less attention, such as aboriginal communities and women.

Part of the reason for this renewed interest is a growing recognition that a successful Canadian economy needs to reconsider the place of the trades in our educational system, in our industry, in our government policy, and in our day-to-day conversations as Canadians. **This reconsideration would see the trades placed alongside other professions as an integral—and *vital*—part of a successful, competitive, and innovative economy.**

Yet while talk is important, it is equally important to *build* a culture which takes great ideas and integrates them into the workings of our schools, our companies, and our workplaces. Talk is not enough, nor is government policy enough. What is needed is a wide ranging "culture of esteem" for the trades; a culture that not only talks, but actually values the trades in Canadian life.

Recognizing the value of the trades means more than just paying good wages—though it includes that. Truly valuing skilled trades work requires a deeper sense of what work is. Arguments for respecting the skilled trades need to tap into deeper questions about skilled trades as *vocations,* as valid and worthy ways that Canadians can make use of their dispositions, proclivities, and talents to fulfill their own potential and to serve their fellow citizens.

Cardus's Building Meaning Project aimed to ask these questions to a wide range of Canadian stakeholders in order to get their perspectives on how industry, educators, government, and all Canadians should think about the trades. And we wanted to take those ideas and present them to Canadians in a way that would give stakeholders concrete recommendations for action that would assist industry, government, educators, and researchers to build workplaces, policies, and schools which recognized the value of skilled trades work in Canada.

We are pleased to present the recommendations of Cardus's Building Meaning Project to you.

We do so fully aware that recommendations on paper are useless unless they are implemented by the wide range of institutions which work in the day-to-day details of construction and other industries where the skilled trades are present. **And as we present these recommendations, we also look forward to the continuing work of implementing these ideas into the policy, workplace structures, communications, and strategies for the various organizations with a stake in these discussions.**

We are grateful to have worked alongside our partners, sponsors, and participants in this process and we hope to continue working with you to build meaning in the skilled trades over the years to come.

Sincerely,

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ABOUT CARDUS

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EXECUTIVE SUMMARY

We know there is much more to our work than just money. We all know it, but we don't often talk about it. Yet a wide range of factors affect our decisions about the type of work we do and how we do it.

The meaning and daily satisfaction we derive from work; the opportunities it affords us to challenge ourselves and to develop as individuals; the ability it offers us to provide for our families and contribute to our communities; the respect it draws from our peers and from society; all of these contribute to the choices we make about work. And these not only affect working individuals, but the institutions – businesses, governments, associations, schools – which provide, regulate, support, and sustain that work.

The goal of Cardus's Building Meaning Project is to get stakeholders in our national skilled trades talking about *these* factors. We recognize that there are strong market drivers in the skilled trades and that they act as key forces affecting major economic challenges like labour supply. But we also recognize that labour markets, business practices, government policies, and educational institutions are shaped by a wide range of factors on which we rarely focus, much less measure.

Focusing on the esteem for the trades—the meaning of the trades in their own right—is an attempt to introduce a new vocabulary into our conversations about the skilled trades. We hope that this will allow Canadian industry, labour groups, government, and educational institutions to approach workforce development in the skilled trades with a new focus that will result in better work, a strengthened and more productive workforce, a more vital and stable economy, and ultimately a strengthened country.

We began this discussion with a series of interviews with industry stakeholders across the country on whether or not the trades were suffering from a "social bias" against them, and whether this was negatively affecting the ability of the industry to meet its labour needs. The results of these interviews and subsequent research formed the basis of a discussion paper that helped direct three regional policy round tables held in Vancouver, Calgary, and Ontario.

These policy round tables featured a wide range of industry voices, including labour unions, contractors, employer associations, construction associations, resource companies, and other major construction purchasers, educators, aboriginal communities, and provincial government officials.

The results of these working round tables were a series of recommendations that were presented at our culminating National Round Table on November 20, in Ottawa. The National Round Table featured Matthew Crawford, the renowned author of *Shop Class as Soul Craft*, as well as a keynote lecture from Jason Kenney, Minister of Employment and Social Development. In addition, the National Round Table featured leaders from a wide range of Canadian construction associations, labour unions, aboriginal communities, business groups, and researchers. (A full list of round table attendees, from both the regional and national round tables are attached below).

It should be noted that these recommendations are drawn from Cardus's research, interviews, and the regional round tables. The recommendations do not necessarily reflect the positions of any of our partners and should not be construed as such. We present them below in the hope that stakeholders will make use of those which are appropriate to their various organizations, and we hope that those recommendations will be of service to them in their work and in their pursuit of a commitment to the importance of the skilled trades as part of Canada's social and physical infrastructure.

Recognizing the variety of stakeholders in this discussion, each with their own public and private spheres of responsibility, we have organized the recommendations into four separate categories:

1. INDUSTRY AND LABOUR STAKEHOLDERS: these include construction owners and purchasers, individual contractors, and construction associations, and the full spectrum of labour organizations at work in Canada's construction industry.[1]

2. EDUCATIONAL INSTITUTIONS: these include the gamut of Canadian educational institutions—public and private elementary to post-secondary.

3. GOVERNMENT: both federal and provincial.

4. RESEARCHERS: our conversations revealed issues that require further research that can be carried out by academics, and other industry or government researchers.

Each brief is organized to highlight new policies or practices which were suggested in the round tables, best practices already in place in some jurisdictions that might be emulated, areas where existing relationships between the stakeholders need to be enhanced, innovative ideas which are nascent and require further discussion to determine feasibility, and key messages about the skilled trades that were heard across round tables.

1. For background reading on the spectrum approach to labour, please see Pennings, Ray. *Competitively Working in Tomorrow's Construction*. Cardus. 2003

RECOMMENDATIONS

1. SHIFT APPRENTICESHIP SYSTEM EMPHASIS TO "COMPETENCY EVALUATION"

The current apprenticeship system places heavy emphasis on "time completed" working on a trade, but does not always require on the job competency check-off. Competencies tend to be checked more heavily during "in-school" sessions, without mandatory competency completion on site. A shift within the apprenticeship process towards competency fulfillment on site would signal to apprentices the full scope and complexity of the trade, and move training towards "structured management of apprenticeship" recommended by scholars as a means to improve apprenticeship engagement, retention, and completion.[1]

Target Community: Industry, Educational Institutions, Provincial Governments

2. RE-IMAGINE APPRENTICESHIP "SYSTEM" AS APPRENTICESHIP "NETWORK"

Our current mentality of apprenticeship and training as a system assumes a direct relationships between "inputs" and "outputs" which fuels a "prisoner's dilemma" on the issue of training investment. Individual employers are concerned that training investments (inputs) will be lost if employees leave to work elsewhere. That is, employees will not receive the benefits (output) of their investment. This leads to a culture where investment is curtailed for fear of lost investment. Whereas the German system has structural ways (i.e. required Chamber of Commerce membership) of mitigating this dilemma, Canadian culture does not.

We cannot replicate the German system. But we can find ways to mimic some of its strengths. Re-imagining the apprenticeship system as a network, alongside investment in institutions which can mediate group spending on training would address the prisoner's dilemma. Governments could also enable these mediating institutions by being open to innovative ways of managing apprentices and training proposed by these institutions and removing regulations which prevent this.

Rationale: Providing venues for pooled investment and shared risk will minimize concerns about "poaching." It will also allow small contractors to take advantage of

1. See, for instance, Fayek, Aminah Robinson, Yorke Mike, and Cherlet, Ron. (2006). *Workforce training initiatives for mega project success*. Canadian Journal of Civil Engineering, Special Issue on Construction, CSCE, 33(12): 1561-1570. P. 1563 http://www.nrcresearchpress.com/doi/pdf/10.1139/l05-125 p. 1563

broader institutions which can come alongside them to meet their needs without taking on the risk of creating their own systems. It also provides new entrants with a central location to acquire information on training and apprenticeship.

Examples: Union training funds and centres, and many large contractors already follow this model.

Target Community: Industry, Education, Government, Labour

3. SIMPLIFY ENTRANCE INTO THE TRADES AND INCREASE CONNECTIONS WITH POTENTIAL APPLICANTS

Registering for apprenticeships is extremely confusing. Numerous attempts have been made to clarify and centralize the process for application, but to no avail. Industry associations should consult with human factors engineers to identify and address pinch points in apprenticeship processes. It should also seek to increase touch points with potential applicants and those who influence them. Particular campaigns aimed at, for instance, parents, should be launched as joint initiatives between industry and educators.

Rationale: The first step into a trade should be the easiest. If the process places additional challenges to those already present (i.e. the need to connect with employers), it is likely to unnecessarily restrict the ability of candidates to explore the trades.

Target Community: Industry, Educational Institutions, Government

4. DIVERSIFY APPRENTICESHIPS

Round table participants noted that there are considerably less numbers of occupations with apprenticeships in Canada than in other jurisdictions. Recommendations include introducing apprenticeships in other occupations, or, where appropriate, differentiating current trades into sub-categories.

Rationale: Diversifying apprenticeships would allow for customizable programs to be developed that better meet the needs of industry and workers, and could contribute to greater success in completion rates. It was noted that the end goal should be that of enhancing skills and knowledge, not of reducing work so that it no longer requires thoughtful input from the worker.

Target Community: Industry, Labour, Government, Education

5. INCREASED ATTENTION AND/OR INVESTMENT IN LEADERSHIP TRAINING FOR CURRENT JOURNEYPERSONS



Multiple round table participants spoke of a concern for the loss of institutional and working knowledge. We recommend that employers focus on utilizing those skills, and that industry move to formalize the ability of certain journeypersons to teach apprentices through designations and courses designed to enhance those skills. Government, where appropriate, might recognize the value of such journeyperson mentors to workforce development by adjusting ratios to allow designated mentors to work apprentices in greater number than ratios allow.

Rationale: Such attention would strengthen the ability of firms to introduce apprentices to the full range of the trade – a key ingredient in apprenticeship completion. It would support recommendation to move towards on the job competency check-off in apprenticeship, and would also assist in stemming the loss of talent that industry expects as baby boomers retire.

Target Community: Industry, Labour, Government, Education

6. STRUCTURES TO INTEGRATE GROUND LEVEL TRADES INSIGHT

As a result of its commitment to the highest level of safety possible, safety concerns in the construction industry that are noted by ground-level tradespersons should immediately make their way to the company's management structure in order that the company can address those concerns immediately. The manufacturing sector has implemented similar processes for worker-driven improvements in workflow. We recommend that the construction industry explore ways to create similar structures in their workplaces.

Rationale: This process integrates tradesperson expertise into project processes, contributes to employee engagement, and is a structural manifestation of the recognition of the value of a worker's insights. This may also serve to rectify productivity concerns in the industry. It allows workers to explore and, potentially, experiment with how to make their work better in ways that will improve the entire construction process.

Best Practices and Examples: Many construction companies and owners consult with on-the-ground trades on a semi-regular basis through site meetings and in "pre-job" consultations. This further integrates those practices and widens the number who can contribute to the success of the project.

Target community: Owners, Contractors, Labour

7. EXECUTIVE MEASUREMENT AND REPORTING OF WORKER ENGAGEMENT

Executives have integrated safety measurements and programs into their strategic planning processes. They also regularly report on safety measures in annual reports and other public documents. Many companies do this on a departmental level, but executive reporting on this front will signal a commitment to the shop-level workers as integral to business success. We recommend that executives work to adopt measurements and communications which place worker engagement, training investments, and workplace improvements as a strategic part of their business plans.

Rationale: Measurements communicate to workers, shareholders, and the public that worker satisfaction and meaning matter to the company. It does so by setting a baseline from which new practices and policies can be measured, and can draw questions of employee engagement and meaning into the financial bottom line of firms.

Examples: Manufacturing firms following the Japanese "Kaizen" model have been able to integrate elements of these measurements with success. It is important to note that such models focus on both productivity – which many people interpret as being in favour of the firm – and enhanced worker satisfaction and meaning. One of its key tenets is to remove dehumanizing elements from work and enhance humanizing elements. Within industry, the methods of measuring safety and reporting and solving safety issues also serve as models which might be emulated.

Target Community: Owners, Contractors, Labour

8. INDUSTRY ATTENTIVENESS AND EDUCATION RELATED TO CULTURAL ASPECTS OF CONSTRUCTION WORK

Round tables noted that worksite cultures affected the ability to retain apprentices and tradespersons and recommended that attention to less tangible aspects of workplaces, including the training of incoming workers on realities of workplace culture, might enhance retention of workers, and thus enhance reputation of construction work. This was particularly relevant to non-traditional sources of construction workers including aboriginal communities, immigrant communities, and women. Awareness of diversity of practices and openness to integration will enhance the reputation of the skilled trades in construction.

Target Community: Aboriginal communities, Industry, Labour

9. DEVELOPMENT AND COMMUNICATION OF CAREER PATHWAYS

Industry—particularly associations which transcend individual employers—should identify and communicate multiple career pathways for tradespersons including roles as mentors, supervisors, business owners, etc. Both parents and students believe that occupations in the trades do not provide paths for advancement. Yet, at the same time, industry is projecting significant shortages of leadership positions.

Rationale: Clarifying career paths and communicating the requirements for advancement would signal to youth and parents, as well as tradespeople, the variety of career options present in the trades.

Target Community: Owners, Contractors, Labour

10. VISUAL PROFESSIONALIZATION OF THE TRADES

Certain occupations have increased their status simply by their attire. First responders, for instance, are granted a degree of esteem because they are recognized by their uniform.

Rationale: Visual professionalization of the trades via, for instance, uniforms would make trades readily identifiable and provide a recognizable image for children and others to identify with, and could serve as a visual mark of pride for construction workers.

Examples: In Europe, for instance, certain trades can be recognized because of the type of uniform (given as they graduate) worn by journeypersons, and these uniforms are seen as a mark of pride. There is Canadian precedent for similar practices. The Canadian engineer Herbert Haultain, of the University of Toronto, was responsible for the creation of "the Ritual of the Calling of the Engineer" and the granting of the now famous iron ring. Today engineers are known by, and take pride in, the iron ring bestowed during this ritual. Associations and labour providers, alongside educational institutions, might consider similar practices for each trade.

Target Community: Construction associations, Labour providers, Educational institutions

11. INDUSTRY COALITIONS TO PROMOTE MEANING IN THE TRADES

Respect for the trades is an issue on which an oft-divided industry can agree. Industry should find ways to form coalitions or action groups—led by construction owners, and including associations, labour, and contractors—to maintain a focus on trades promotion. Such an approach could be facilitated by

government, but should not be led by it. Esteem for the trades, like safety, is an issue which can build bridges in what can sometimes be a fractious industry.

Rationale: The construction industry has a tendency to be fractious. Working through broad based coalitions—perhaps led by construction purchasers—would allow for sharing of best practices and innovations across the industry which promote esteem for the trades and meaning in trades work.

Examples: The Construction Owners Association of Alberta is an example of how the industry has formed a broad coalition which has demonstrated an ability to address issues of common concern, particularly on issues related to safety and productivity.

Target Community: Owners, Contractors, Labour, Construction Associations

12. DEEPEN PERMEATION IN EDUCATION SYSTEM

Educational institutions should cooperate to improve ease of course transfer and credentials between programs and work to ease the ability of students to move from academic to vocational training and back. This should take place at a variety of levels:

Elementary and High School: Increasing the ability of students to move in and out of academic and vocational courses would serve to lessen concerns many parents feel about streaming. Round table participants noted that the main concern with regard to vocational and academic pathways in K-12 education was that of "getting stuck" or "locking in" students before they can properly decide their educational and career paths. Increasing permeation would lessen those concerns.

Post-Secondary: Lowering barriers between transfers of university, college, and institutes of technology credits would allow students greater ease of transition. This would help create a more fluid and adaptable "educational network" rather than a series of isolated institutions.

Rationale: Increasing recognition of standards held by various educational institutions and ease of movement between institutions would lower barriers between vocational institutions and enhance, not diminish, the ability of both universities, colleges, and institutes of technology to attract and retain quality students. It would also give due recognition to vocational courses which are equivalent in difficulty and content, but not in status. It will also allow students to more easily match their education to their desired vocational outcome and the needs of the job market. It would also reduce costs associated with repeating courses of a similar nature in multiple institutions.

Target Community: Educational Institutions, Associations

13. CONSIDER EARLY AND CONSTANT EXPOSURE TO WORKING WITH MATERIALS IN GRADE SCHOOL

Children's exposure to working with materials diminishes as they progress in their education, particularly for students deemed to be headed for university. Educators should consider the introduction of "building" elements in curriculum from K-12 in order to allow students continued familiarization with the trades.

Target Community: Educators

14. INTEGRATE SCIENCE TECHNOLOGY ENGINEERING AND MATHEMATICS WITH SHOP-CLASSES

Integrate elementary and high school STEM courses with shop and building classes through cross listing and joint teaching of STEM and shop classes.

Target Community: Educators

15. LINK APPLIED LEARNING, STUDENT ENGAGEMENT, AND GRADUATION RATES

Engaged students are more likely to graduate high school programs. Educational institutions should explore and measure the impact of increasing "hands on" educational programs on graduation rates.

Rationale: At the same time as shop classes in Canadian schools have declined, many Canadian schools have struggled to improve results in STEM[2] and graduation rates. The contractor community is also concerned about the level of essential skills in outgoing students. Round table participants recommend exploring if integration of skills development classes with STEM would improve results in both areas.

Target Community: Educators, Industry

16. ENHANCED SYSTEMS FOR TRACKING EDUCATIONAL OUTCOMES

A key concern raised in the round tables was the inability to track students continuously through the whole course of their studies (K-PSE) and then into their working careers. The use of data which exists at provincial levels—for instance, the provincial Education Number assigned

2. See, for instance Orpwood, Schmidt, Jun. *Competing in the 21st Century Skills Race*. Canadian Council of Chief Executives. July 2012. Accessed at http://www.ceocouncil.ca/wp-content/uploads/2012/07/Competing-in-the-21st-Century-Skills-Race-Orpwood-Schmidt-Hu-July-2012-FINAL.pdf November 7, 2014

to for K-12 students—might be extended into post-secondary education, including vocational education, and, potentially, into working careers.

Rationale: Knowing the paths students take into various programs would assist with more precise and sustainable allocation of funding, including for trades programs. It would also allow educators to more accurately measure the success, or lack thereof, of certain educational or job-placement initiatives.

Target Community: Federal and provincial governments, Educational institutions, Industry

17. DEEPER INTEGRATION BETWEEN INDUSTRY, SCHOOL BOARDS, AND CURRICULUM DEVELOPERS

Round tables noted that K-12 educators remain suspicious of working with industry to shape curriculum and programs. Yet lack of engagement with industry prevents students from being exposed to possibilities in the job market. Working with industry would be as much a service to students as to industry. A number of specific recommendations can be grouped under this heading:

1. Industry should work to make the "educational" case for the trades. That is, having trades in schools is not *only* to get jobs, but to shape students minds and practices. Trades are integral to achieving positive *educational* as well as job market outcomes.

2. Industry should establish relationships with school communities to overcome lack of trust in business community from the educational community.

3. Those responsible for curriculum development should reserve spaces for industry voices (i.e. representatives from Chambers of Commerce, Trades Associations) on relevant decision making bodies to communicate industry feedback and positive suggestions for educational programs.

4. Schools—both public and private—and provincial governments should consider shaping polices which require guidance counsellors to receive mandatory education on skilled trades.

5. Teacher certification bodies should, in partnership with industry, examine ways to shape appropriate, but unique, certification processes for teachers in the trades. Current requirements of Bachelor's degrees privilege a particular type of university education over training and create unnecessary difficulties in attracting qualified tradespersons to teach. Alternatively, industry and educators should work together to provide unique teaching certification in trades schools.

Target Community: Educators, Industry, Provincial Governments

18. GOVERNOR GENERAL'S TRADES MEDAL



Government and industry should work together with the Chancellery of Honours to pursue the creation of honours for the trades.[3] Such honours would place the trades on an equal level with academic and other honours, and would be a significant national symbol of the value placed on the contributions the trades make to our country. This honour would be distinct from those given in academia.

Rationale: Such an honour would communicate the parity of trades and academic pathways in the eyes of the representative of the Canadian sovereign. This would serve as a powerful example of support for parity of esteem from the highest level possible within Canadian society. It would also serve as an incentive to excellence in our trades community.

Examples: France's Société Des Meilleurs Ouvriers De France awards medals for a wide range of skilled trades, including carpentry, glazing, boilermaking, and, perhaps most famously pastrymaking. The medals are awarded by the French President in Paris, and are considered the equivalent of a graduate level degree.[4]

Target Community: Government, Industry, Educators

19. RECOGNITION OF NAMES OF ALL TRADESPEOPLE ON PUBLIC PROJECTS


Round tables noted the individual pride that workers have in the projects they work on. Many cited how workers regularly point out that "I helped build…." While private pride is important, municipal, federal and provincial governments should communicate the names of all participants on public construction projects—including trades and labourers. This could be done with conspicuous plaques in visible and high traffic areas, or, on projects not accessible to the public, via recognition in local or national newspapers, or via searchable websites on government infrastructure pages.

Rationale: Such a practice would communicate that public bodies support and recognize the contributions of tradespersons to "building our provinces and our country." It will also serve as a means of making conspicuous the role of trades in building communities, as children and members of the public —including youth— will more easily be able to recognize and see how people they know personally are involved in the community. Such recognition could easily, and with a minimal cost, be included as part of government procurement requirements.

3. See, for instance http://www.gg.ca/document.aspx?id=5&lan=eng
4. See http://www.meilleursouvriersdefrance.info/

Examples: Many contractors and labour providers practice this internally already. Also, the British Columbia and federal government committed to this on projects in British Columbia in the early parts of this decade.[5]

Target Community: Federal, provincial, and municipal governments, Industry

RECOMMENDATIONS FOR RESEARCHERS

20. Studies concerning the perceptions of the trades have been undertaken on parents and students, but an in-depth study of the broader social perceptions of the trades in Canada, and their impact on attraction and retention in the trades, is still not available. Such a study would establish a baseline against which measures taken can be evaluated and targeted.

21. While there is some data on perceptions of the trades, we cannot speak confidently about the impact of social perceptions on career choice, and, even so, we cannot speak to the impact of those perceptions relative to other factors, including, for instance, wages.

22. Why do people leave? Research into the attrition rates from various stages of apprenticeship, the attrition rates of journeypersons, and a comparison to other careers is still not available.

23. Why do people come and stay? Conversely, research into motivations for entering and remaining in the trades is not available.

24. Current data suggests that non-Aboriginals and individuals who do not belong to a visible minority (the excluded groups) are more likely to complete apprenticeships. More data is required on barriers to entry and completion for aboriginal communities and visible minorities.

25. Network mapping of the apprenticeship system might identify areas where attention could be placed to smooth apprenticeship transitions and could guide policy makers on pinch points and areas of movement within the system.

26. How do tradespersons view their own work, and why? Data on the perceptions of tradespersons themselves—particularly as it relates to encouraging their children and those in their community to take up or avoid, the trades—is still not readily available. Some children take up the trades because their parents did, others avoid it because their parents who practiced a trade counselled against it.

27. Current data notes that immigrant status has a limited effect on apprenticeship entrance and completion. However, the rationale offered for this is, at least in part, because "many immigrant groups (e.g., Eastern Europeans) are heavily involved in

5. For an example, please see http://www.th.gov.bc.ca/cariboo_connector/documents/100729_nr_SFB_Plaque.pdf

the trades." Does this remain true across other immigrant groups? What barriers exist in those communities?

28. The relationship between apprenticeship completion and various sectors—i.e. residential and/or industrial—and the transfer of those skills across sectors are topics that should be explored further.

1. **Skilled trades work is both lucrative and creative.** The skilled trades require a creative—even artistic—disposition and provide opportunities for workers to put their creativity to use.

2. **Skilled trades work is intellectually challenging.** Tradespeople are regularly faced with complex challenges and must use a wide variety of social, mathematical, and practical skills to solve those challenges.

3. **Pursuit of a vocational education is not inferior to an academic education.** In fact, vocational education provides the material basis by which other types of education are enabled.

4. **Vocational education does not preclude other types of education.**

5. **Skilled trades work provides clear and direct measures of success—and thus satisfaction.** Working with material provides immediate feedback on your skill and opens new opportunities to enhance those skills.

6. **Skilled trades work provides workers with a long list of identifiable legacies.** A worker can point to various projects and identify a project directly with his or her work: "I built that."

7. **Skilled trades work enables citizens to be self-reliant and it provides individuals with the skills of adapting and innovating with material goods.** Knowing "how to make things work" is a springboard for innovation and invention.

8. **Skilled trades work builds communities and connects Canadians.** Skilled trades work offers opportunities not only for personal satisfaction, but collective satisfaction since it contributes to the building of homes, neighbourhoods, cities, provinces, and the country as a whole.

9. **The skilled trades are springboards to a wide variety of career pathways.** Rather than assigning a person to one mode of work, the intrinsic characteristics of skilled trades work equip workers to pursue an array of career options. Trades work can lead to owning a business, to teaching, to estimating, to managing a company, and to a whole host of other potential careers.

10. **Skilled trades jobs provide the resources and time for workers to enjoy leisure and to contribute to their communities.**

"The Committee recommends that the Government of Canada support round table discussions with multi-stakeholder panels that would be given the liberty to be creative and look at potential innovative solutions to the problem of skilled trades shortages in specific industrial sectors."[1]

THE CORE ARGUMENT: SKILLED TRADES CULTURE HAS ECONOMIC IMPLICATIONS

"If this doesn't work out for you, you can always pick up a trade."

This short, seemingly encouraging, epithet encapsulates both the hypothesis behind this paper and the motivation for the Building Meaning Project.

Our working hypothesis is that a social bias against employment in the skilled trades exists in this country. By social bias, we don't mean that work in the trades is despised *per se*, or that those who work in the trades face discrimination because of their work. Rather, we suggest that for a variety of reasons many Canadians see work in the trades as inferior to other vocational options available to Canadian workers today, and that such a bias has worked its way into a variety of social structures: government, education, and occasionally, even industry. To put it crassly: the trades are last resort careers when other options are not possible.

Of course, no particular type of work will always be a "first choice" for all, or even most, workers. But why is work in the skilled trades seen as a secondary option for so many? What are the factors that lead to this bias? How are they formed? What impact does the way skilled trades work is understood and organized at a policy level, industry level, and job-site level, have on important questions related to the skilled trades, such as attraction and retention of skilled trades or on apprenticeship completion? Which institutions, practices, or policies perpetuate or work against such a bias? What can we do to overcome it? Who should take the lead in addressing issues related to developing a steady and sustainable skilled workforce in Canada?

These are a few of the questions that we hope to begin to explore here. This paper is designed not to provide definitive solutions, but to facilitate industry discussions at a regional level and identify the tangible research and policy issues that might be pursued by industry, government, and educators.

1. Recommendation 11 from Report of the Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities. Dec. 2012

As we move through the research and interviews in this paper, we will intersperse a series of questions that we hope will initiate further discussion and concrete proposals at our round tables. These questions will revolve around four key strategic themes:

RECRUITMENT AND EDUCATION STRUCTURES: How do we attract people to the trades? How do we create educational and training structures which will enable them to be "job-ready"?

RETENTION AND MOVING FROM JOB TO CAREER: How do we organize skilled trades work and create structures and policies to ensure that skilled tradespeople stay long-term in the industry?

SOCIAL ARCHITECTURE OF SKILLED TRADES: In what way is government helping or hindering workforce development? In what way are associations doing the same? What new forms of cooperation might be required to meet this need?

ESTEEM AND VOCATION: How can a numbers-driven industry understand and integrate the vocational questions of its labour force with its bottom line?

It is our intent that this paper, in concert with our round tables, will move discussions about skilled trades in a more nuanced direction that connects deeper questions of vocation, meaning, and satisfaction of skilled trades work to the policies and structures of industry, government, and educators.

It is our hope that these efforts will serve as a small step in the broader project of affording work in the skilled trades the respect it deserves, of creating structures and policies which work from that assumption, and, ultimately, of developing a vital and sustainable skilled trades workforce for Canada.

CONTEXT: WHY THIS PROJECT?

In January 2014, Cardus hosted a conference in Toronto entitled *Canada's New Industrial Revolution*. That conference, which featured leading representatives from resource development, construction, labour, transportation, manufacturing, and education sectors was premised on the assumption that resource development, and particularly the construction related to it, presented a pan-Canadian opportunity.

We noted that Canada's industrial base is not declining, but shifting. In contrast to the economies of Britain, the United States, Japan, and other industrialized countries who have experienced massive and long-term decline in their industrial sectors, Canada's industrial economy remains robust. We made two key arguments based on our evidence. First, Canada's resource base is not simply an opportunity for one region, but a pan-Canadian opportunity. Massive resource development plays are present in almost every province in Canada. Second, we argued that the construction related to developing these resources represents a shift in Canada's industrial base; construction investment will drive not only its own sector, but will drive manufacturing and other sectors.[2]

We suggested that this opportunity presented Canada with new challenges and that capitalizing on these opportunities would require industry, labour, and government to work together to address those challenges.

One of the most significant challenges highlighted at the conference—noted by virtually all participants—was the challenge of developing an adequate supply of skilled labour to the locales facing the greatest need.

Although there have been many reports, public conversations, and media stories regarding the topic of labour supply for the skilled trades, the issue remains one regarding which there is considerable confusion and no clear consensus. Part of the challenge here is in deciding what type of labour we're concerned about, and where we get the information about it. As Don Drummond notes in "Wanted: Good Canadian Labour Market Information," a recent IRPP paper: "Labour markets are very complex, ever changing and highly heterogeneous by occupation."[3] In many cases, taking aggregate numbers across occupations and across the country without distinction will show that there really is no labour shortage, or that if there is, its economic effects are negligible. Indeed, this is the conclusion of a TD report, which notes that, "At least from an economy-wide perspective, it is hard to make the case that widespread labour shortages currently exist."[4] Further, Burleton makes the case that even in occupations which have been widely noted as being in a position of shortage, the shortage might be overstated, since vacancy rates and wage increases are not reacting in the ways one might expect them to from the position of economics.[5]

2. Kuykendall, Russ. *Signs of the Times. Canada's New Industrial Revolution*. Cardus. January 2014
3. Drummond, Don. *Wanted: Good Canadian Labour Market Information*. IRPP. June 2014 accessed at http://irpp.org/wp-content/uploads/2014/06/insight-no6.pdf p. 7
4. Burleton, Derek et al. *Jobs in Canada: Where, What, and For Whom?* TD Economics. October 22. 2013 accessed at http://www.td.com/document/PDF/economics/special/JobsInCanada.pdf p.26
5. Ibid, see especially pp. 28-30

While the reality of labour shortages might be distorted and misperceived for some occupations, Burleton notes that when it comes to the skilled trades the data supports concerns about labour shortages. He notes that "consistent with all the talk about extreme demands for trades and vocational workers, the figures point to excess demand at the national level."[6]

Labour shortages are a potential limit on Canada's growth in the construction sector, and a limited construction sector can have the effect of limiting Canada's overall economy.

This conclusion is also in line with data from the industry. BuildForce Canada, the leading provider of Labour Market Information for the construction sector, has for some time noted the extremity of the challenge in developing a consistent and steady labour supply for Canada's construction sector, particularly in the West, and particularly in areas where resource development is driving construction investment. Their most recent report states:

> As each year passes, the demographic patterns that limit Canada's growth potential grow a bit more severe. Retirements rise each year while the number of new entrants from the local population declines. Under these conditions, the local workforce is not able to meet requirements and pressures continue to grow around immigration and recruiting youth. Matching the right trades and skills to cyclical or demographic needs will continue to be the industry's main challenge. Across the 2014–2023 scenario, replacement demands due to retirements reach 235,000 – well in excess of the 64,000 workers needed to fill new jobs. Estimated first-time new entrants of 167,000 from the population aged 30 and younger are not sufficient to meet demand requirements.[7]

BuildForce notes that "much of the needed additions to the workforce will come from international sources."[8] But even here there are challenges. The combination of construction growth in countries from which Canada traditionally attracts workers, combined with the fact that growth in these countries is driven by the same sectors—energy and infrastructure—creating demand for workers, creates a "one-two punch" which suggests that Canada will have a tremendously challenging time in ensuring it has the workforce required to sustain construction growth.[9] These challenges will be exacerbated by the intensity, scale, and remote locations of many of the projects demanding skilled trades.

6. Ibid. p. 30
7. BuildForce. *Construction and Maintenance Looking Forward. National Summary 2014-2023* accessed at https://www.constructionforecasts.ca/sites/forecast/files/highlights/en/2014_National_Constr_Maint_Looking_Forward2.pdf p. 2
8. Ibid p. 9
9. BuildForce. "Global Trends: Emerging Construction Labour Markets." https://www.constructionforecasts.ca/sites/forecast/files/pdf/Global%20Trends%20-%20Emerging%20construction%20labour%20markets.pdf March 2014 p 9

None of this is news to those in the industry who have been anticipating and adjusting to meet these challenges over the past decade; nevertheless, it is important to distinguish the unique needs of the industries whose workforces heavily draw from the skilled trades in order to ensure that their genuine challenges, and the needs arising from them, do not get caught up in discussions which would downplay the urgency of labour supply for the industries requiring skilled trades.

In short, labour shortages are a potential limit on Canada's growth in the construction sector, and a limited construction sector can have the effect of limiting Canada's overall economy.

LINKING SOCIAL BIAS AND LABOUR SUPPLY

But are the two issues linked? Does a social bias against the trades—if it exists at all—have anything to do with massive labour shortages in the trades? If so, how? And how much does it affect labour supply in the skilled trades? Is there data which supports this linkage? What are the other issues which might be affecting labour supply?

Certainly Canada's leading business communities perceive that there is a linkage. The Canadian Chamber of Commerce ranked skills shortages as one of the top ten barriers to competitiveness. And on the relationship between social bias and labour supply, they note:

> Social biases and education policy are affecting the pool of entrants into skilled trades and science-based occupations. The chronic shortage of highly qualified and skilled trades professionals stems from a social bias against the skilled trades as occupations.[10]

Further, the federal standing committee on HRSDC, reporting on testimony of a wide range of witnesses, state:

> There seems to be a problem of perception surrounding apprenticeship programs. There is a stigma associated with participating in an apprenticeship program leading to a skilled trade. Many parents think that a university education is the only sure path to job security, good wages and a superior quality of life for their children.[11]

On what basis are these assertions made? Are they simply assertions, or does the data support these assertions?

For starters, there is not a great deal of empirical data in Canada on this subject. The best studies on this topic were conducted twice for the Canadian Apprenticeship Fo-

10. Canadian Chamber of Commerce. "Top 10 Barriers to Competitiveness," 2014 http://www.chamber.ca/advocacy/top-10-barriers-to-competitiveness/140206_Barrier_1.pdf p1
11. "Economic Opportunities for Young Apprentices" Report of the Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities May 2013

rum, first in 2004 and again in 2013. The studies, which measured perceptions of careers in the skilled trades among youth, lend broad support to the hypotheses outlined above, but also challenge it in some ways.

Key among these findings—consistent in both the 2004 and 2013 studies—was the fact that "parents, guidance counselors and friends have not encouraged [youth] to consider a career in the skilled trades"[12] and that a university degree maintained its position as "their first-choice post-secondary option." These findings came despite indications of increased awareness of career options, higher numbers of students who considered trades careers "'better than' a career in law, business, or accounting," and a greater openness to considering the trades as a career from the study in 2004.

The youth who preferred a university education, the study notes, "may have been expressing a genuine preference, [but] social context could also be a factor in this response, reflecting the belief that university is more highly valued by others."[13]

Other measures of esteem for the trades—including those pertaining to creativity, potential for career advancement, recognition of the social value of tradespersons' work—were answered positively by a majority of respondents, and most showed higher levels of agreement than the 2004 study.

One measure which failed to find majority agreement was that "skilled tradespeople are respected in society." While 48% of respondents agreed with this, it nonetheless indicates that young students perceive a general societal disrespect for skilled trades. Yet this perception is up from 41% in 2004 and is extremely close to being a neutral perception.

Youth perception of social disrespect for skilled trades is actually superior to early studies of the social status of skilled trades among occupations.

August Hollingshead's Four Factor Index of Social Status, for instance, ranked skilled trades 4th on a 9 point scale of ascending social prestige.[14] Of key interest here is the prevalence of jobs that involve mental tasks—engineering, teaching, writing, accounting, advising, and administrating—as well as caring for bodies—dentistry, nursing, medicine—in the upper tiers of these rankings, and the prevalence of jobs which require use of the body to shape materials in the lower rankings. Indeed, the more physical the work, the lower its rank. The CAF data suggests that, like perspectives on other sociological and economic factors, the status of occupations can improve over time.

But again, while this supports the argument that there is, to some degree at least, a social bias against the trades, it does not answer the extent to which such cultural and societal biases have economic implications.

12. Canadian Apprenticeship Forum. *Apprenticeship Analysis: Youth Perceptions of Careers in the Skilled Trades.* Canadian Apprenticeship Forum. September, 2013 p.16
13. Ibid. p.11
14. Hollingshead, August B. "Four Factor Index of Social Status" *Yale Journal of Sociology* Volume 8, Fall 2011 http://elsinore.cis.yale.edu/sociology/yjs/yjs_fall_2011.pdf#page=21

From early on, the discipline of economics has linked social attitudes with economic outcomes. Take Adam Smith who suggests that the esteem one receives from a given trade is a form of compensation, and is also reflected in the difference between certain occupations, with those of lower esteem earning higher pay:

> A journeyman blacksmith, though an artificer, seldom earns so much in twelve hours, as a collier, who is only a labourer, does in eight… Honour makes a great part of the reward of all honourable professions."[15]

Is the lag in esteem for skilled trades simply a function of a society which has not yet realized the growing number of skilled trades jobs which pay extremely well or is there another reason for the persistence of an esteem gap?

Recent economic research confirms this. Weiss and Fershtman have noted that "cultural differences among societies may translate into different status of occupations and can, therefore, affect the choice of education and occupation and, consequently, the equilibrium level of output and wages."[16]

Conversely, they note that "it is well established by sociological research that the social status of an occupation is influenced by economic attributes such as the average wage and the average level of education in an occupation."[17]

Noticeable in this study, and in the bulk of the literature on this topic, are the links between higher wages, level of education, and social status.[18] For instance, in the CAF perception study, students perceived that careers in the skilled trades paid poorly and there was a significant drop in perception of the trades as careers which "require formal studies and training just like any other professional position."[19] This one study provides a small glimpse into why the skilled trades continue to experience a lag in social esteem even when there are objective measures which show that skilled trades work not only requires a significant educational component, but pays higher than average wages.

15. Smith, Adam. *An Inquiry Into the Nature and Causes of The Wealth of Nations*. Jim Manis, Editor. Pennsylvania State University. Accessed at http://www2.hn.psu.edu/faculty/jmanis/adam-smith/wealth-nations.pdf 2005 p. 87
16. Ferscthman and Weiss. "Social Status, Culture and Economic Performance." *The Economic Journal*. Royal Economic Society. 1993. p. 37
17. Ibid.
18. See, especially, Robinson, Peter. *The Myth of Parity of Esteem: Earnings and Qualifications*. Centre for Economic Performance. July 1997 Accessed at http://eprints.lse.ac.uk/2326/1/The_Myth_of_Parity_of_Esteem_Earnings_and_Qualifications.pdf
19. Canadian Apprenticeship Forum. *Apprenticeship Analysis: Youth Perceptions of Careers in the Skilled Trades.* Canadian Apprenticeship Forum. September, 2013 p.16

IS SOCIAL ESTEEM A SCARCE RESOURCE? A CHALLENGE TO THE INDUSTRY IN A COMPLEX ECONOMY AND A CHALLENGE TO THE PROJECT

One of the challenges to comprehending social esteem according to these terms—strictly money and education—is that it seemingly puts the notion of "parity of esteem" out of reach. Indeed, this is the argument made by Robinson in his 1997 paper on esteem and the trades. He maintains:

> Insisting, as so many of those who make or influence public policy do, that academic and vocational qualifications do or should have "parity of esteem", flies in the face of the evidence from the labour market that this is not the case. It is this evidence, rather than protestations to the contrary, which will influence the decisions made by people who are making choices between different qualification routes. The labour market provides clear signals which explain why young people with the best GCSE scores at age 16 tend to opt for the academic A level route [author's note: A level indicates what is best approximated in Canadian terms as university track education] rather than the vocational route. To do so is rational because it is likely to get them a better job.[20]

His insight is basically true in Canada as well… at least for now.

An apples-to-apples comparison of the average wages of those in the skilled trades will show that the trades' wages sit just above the median wage of measured occupations[21] and studies continue to suggest that the rate of return for university outstrips that of trades education.[22] As the president of the Council of Ontario Universities recently declared: "A university education is the best path to a successful career and well-paying job."[23]

But looking at the buds of information suggests that there are signs that the traditional advantage of a university education is softening, at least in Ontario. Alex Usher notes that "the average [income] in every single discipline is below where it was for the class of 2005. Across all disciplines, the average is down 13%."[24] This doesn't invalidate a Bachelor's advantage by any means, but it hints that certain changes are afoot which might soften the conclusions about university education drawn in the CD Howe Report from 2005.

In certain occupations (skilled trades), and in certain sectors (construction), the hourly wages of skilled tradespeople match or exceed—sometimes by a great deal—occupations

20. Robinson, Peter. "The Myth of Parity of Esteem: Earnings and Qualifications." Centre for Economic Performance. London School of Economics. 1997
21. Statistics Canada Table 282-0069 *Labour force survey estimates (LFS), wages of employees by type of work, National Occupational Classification for Statistics (NOC-S), sex and age group, unadjusted for seasonality*
22. Boothby, Daniel and Drewes, Torben. *The Payoff: Returns to University, College and Trades Education in Canada*, 1980 to 2005. Accessed at http://www.cdhowe.org/pdf/ebrief_104.pdf CD Howe Institute. August 24, 2010. .
23. Patterson, Bonnie "Ontario university graduates are getting jobs: 93 per cent in well-paying jobs two years after graduation, government survey shows." Accessed at http://www.cou.on.ca/news/media-releases/cou/ontario-university-graduates-are-getting-jobs--93- . Council of Ontario University. September 3, 2014
24. Usher, Alex. *Some Scary Graduate Income Numbers*. Accessed at http://higheredstrategy.com/some-scary-graduate-income-numbers/ Higher Education Strategy Associates Blog. September 8, 2014

typically held in high esteem. A pipefitter working out of Edmonton, for instance, can earn over $43.00 per hour, plus wages and benefits. This is well in excess of the average wage of many of the "high esteem" professions requiring a university degree.[25]

Is the lag in esteem for skilled trades simply a function of a society which has not yet realized the growing number of skilled trades jobs which pay extremely well or is there another reason for the persistence of an esteem gap?

You will not achieve esteem without describing the intrinsic utility—the meaning —of the work.

If the former, could it be that aggregate data on wages hides the premium that certain sectors—oil and gas in Alberta, or mining in Ontario, for instance—offer? Do these sectors have a national role to play in leading a national push for increased esteem in the trades? If so, how can they shape a message that will meet their ends, while lifting esteem for the trades as whole? How does the industry avoid misleading youth about the potential for high wages?

But, if wages are going up, and there continue to be perceptions that the trades are less desirable careers, does this hint at a limited supply of social esteem? Some scholars believe there is, at least within firms: "increasing one agent's status necessarily involves improving her position in the hierarchy relative to others who will mechanically suffer some loss. In other words, status in organizations is a scarce resource."[26]

Does the same dynamic exist within the labour market as a whole? Must esteem for one set of occupations come at the expense of others? Does promotion of a particular type of education necessarily imply a downplaying of another?

If we identify esteem with broader measures of attention and investment—both of which are, of necessity, limited —then certainly there is no doubt about a limited supply. The same is true when the focal point is on attraction and retention of skilled workers, who, are also in short supply. There is a real sense—especially for stakeholders faced with real needs in their industry—in which speaking of parity of esteem for careers in the skilled trades entails competing with other prospective careers.

Must esteem for one set of occupations come at the expense of others? Does promotion of a particular type of education necessarily imply a downplaying of another?

But to equate esteem—a term of respect related to the intrinsic attributes of a career—with status—a term denoting relative social standing—is a mistake. It is difficult to achieve one without the other.

25. Statistics Canada Table 282-0069 *Labour force survey estimates (LFS), wages of employees by type of work, National Occupational Classification for Statistics (NOC-S), sex and age group, unadjusted for seasonality*
26. Auriol, E. and Renault, R., *Status and incentives*. The RAND Journal of Economics, 39: 305–326. Accessed at http://onlinelibrary.wiley.com/doi/10.1111/j.1756-2171.2008.00015.x/full 2008

Competing for limited supply of workers might necessitate emphasis on status, but you will not achieve that without esteem. And you will not achieve esteem without describing the intrinsic utility—the meaning—of the work.

A British report from The Institute for Public Policy Research entitled "Rethinking Apprenticeships," highlights this reality well:

> For economic competitiveness, we need to express skills at the highest levels, and we need to assure customers at home and abroad that this is the expectation. *For personal development, we need to offer a genuinely alternative route, not in some vain pursuit of parity of esteem, but earned and demonstrated on its own merits*. This needs to cover not just the initial apprenticeship experience but progression and personal development of all kinds, offering the status that it used to, or as a foreign educational qualification often does. Government needs to support this process, as it intends to, but not supplant as its driver the central and ultimately healthy relationship between employer and apprentice or developing employee. *We need to work not just literally with market demand or the urgent need for national competitiveness but to align them with the world of aspiration and personal development.*[27] [Emphasis added by author]

But who is responsible for "demonstrating the merits" of the skilled trades?

A helpful overview of the various stakeholders at play comes from Bonnie Watt-Malcolm and Antje Barabasch in their examination of the apprenticeship sector:

> The prominent stakeholders [in apprenticeship discussions] are: federal, provincial and territorial governments; owners and corporations; trade unions; labour organizations; non-union associations; contractors and employers; journey people and apprentices (i.e. employees); training and education agencies…Despite the inherent uncertainties in the construction labour market, [stakeholders] have a vested interest in how skilled labour training is managed. Even though these stakeholders are joined by a common goal—that is, to ensure that there are adequate numbers of skilled trades people to perform the necessary tasks—numerous tensions arise because there are different philosophies about what it means to be a qualified skilled trade worker.[28]

Do similar tensions exist in the industry on the intrinsic merits of skilled trades work? Is consensus possible? What might such a consensus, if possible, look like? And how might such a consensus influence the structures and policies of the various stakehold-

27. Dolphin and Lanning Eds. *Rethinking Apprenticeships,* Institute for Public Policy Research. Accessed athttps://www.aoc.co.uk/sites/default/files/IPPR_Rethinking_Apprenticeships_Nov_2011.pdf#page=90 2011. p. 92 (Emphasis added)

28. Watt-Malcolm, Bonnie and Barabasch, Antje. *Tensions in the Canadian Apprenticeship Sector: rethinking Bourdieu's analysis of habitus, field, and capital.* Research in Comparative and International Education, Volume 5 Number 3 2010 p. 296 Accessed at http://www.wwords.co.uk/pdf/freetoview.asp?j=rcie&vol=5&issue=3&year=2010&article=6_Watt-Malcolm_RCIE_5_3_web

ers in the industry? What messages about the nature of the trades is communicated by the current policies and structures in industry, government, and education? What is missing? What does the industry do well?

At this point it is important to note that while it is useful to use "skilled trades" and even "apprenticeship" as heuristic devices in policy discussions, neither term is a singular concept. The skilled trades are, in fact, very diverse and are essential components of a wide variety of economic sectors that go well beyond the construction industry. As such, the challenges faced by one sector will not necessarily be the same faced by another. For instance, the challenges of the manufacturing industry will differ and overlap with construction in many ways and these, in turn, with other industries.[29]

Making the case for the skilled trades must speak to the intrinsic merits of the work, but it also needs to consider the context in which that work is done.

And even within this paper and its focus on the construction industry, there are nuances that need to be considered. Making the case for the skilled trades must speak to the intrinsic merits of the work, but it also needs to consider the context in which that work is done. A remote industrial construction site with a mobile, fly-in and fly-out workforce will have different challenges than an industrial site located near a major urban center where workers can work and live locally. And the differences are not limited to local vs. remote worksites; there are significant regulatory and market differences in each province and each region within Canada.

In addition, the size of a company and its workforce matters. A company with a small workforce and with short lines of supervision will have different approaches and outcomes than a company where workers are left to work independently on sites where hundreds of workers are present. And the differences in career paths, incomes, training opportunities, and even esteem, in the various sectors of construction—residential, commercial, and industrial, to name a few—can be significant.

While it is certainly true that real issues are present in many industries, and, within the various construction sectors in Canada, it is also true, as we note in *Canada's New Industrial Revolution*, that the greatest demand for these skilled trades comes primarily from in the industrial construction sector, and particularly those related to major resource developments and infrastructure projects. These projects exert tremendous gravitational pull on the Canadian workforce, and exert a strong influence on a wide range of workforce development questions in various sectors, and in various regions, and among companies and associations of all sizes.

29. See, for instance, Sharpe, Aresenault, and Lapointe. *Apprenticeship Issues and Challenges Facing Canadian Manufacturing Industries*. Centre for the Study of Living Standards. Feb. 2008

The challenge is not only to be aware of these levels of difference within the industry, but simultaneously to recognize the gravitational pull of the industrial resource sector on workforce questions. And, from there, to work through these levels of complexity in order to identify the principles which shape practices and approaches in the unique construction contexts which, in turn, can shape policies which will achieve the outcomes the industry as a whole requires.

THE VIEW FROM THE FIELD: INDUSTRY PERSPECTIVES

As part of the background for this paper, we conducted a series of interviews with a variety of construction stakeholders in various regions representing a variety of interests and associations in the construction industry. We did not conduct an exhaustive review of the field, but rather, focused on instigating and facilitating a discussion which would provide the basis for further discussion and debate at our round tables. A list of interviewees and the conversation questions asked in the interviews is attached as Appendix A.

Our interviews revealed that, on most of the challenges for the industry described above, there was more consensus than tension. Even on the policy side—where solutions to those challenges often create tensions between interested parties—there was a high degree of consensus. However, as we note below, real differences in the industry remain.

On the question of labour supply, the responses from the field differed significantly depending on the region and the sector. These differences are indicative of the nature of the industry in a country as diverse and vast as Canada.

The head of the Canadian Construction Association, Michael Atkinson, noted that the "number one myth is that Canada is one big cohesive uniformed labour market" and that, there are "perhaps as many as thirteen different labour markets and we'd better realize that there's not one fix at the national level that's going to work in all thirteen labour markets."

Rosemary Sparks, Executive Director of BuildForce Canada, known primarily for its labour market information work for the construction sector, notes that supply is only one major challenge. She cites BuildForce's "preference to talk about workforce challenges rather than labour shortages. The construction industry faces challenges, in some cases, in numbers of skilled tradespeople, in other cases it is the specific skills available, and there are issues related to the number and timing of major projects that will affect these challenges."

In Southern Ontario, concerns about supply and timing were relatively muted. Bob Blakely, COO of the Building Trades, stated: "Is there a challenge supplying enough construction workers in the GTA? The answer is probably not. If you look at the type of construction, you look at the location, you look at the ability for people to

simply show up and say here I am. It's not such a big issue." This sentiment was echoed by Clive Thurston, President of the Ontario General Contractors Association. He says that "here in Ontario we have not seen a shortage." Joe Keyes, of Ontario's Construction Labour Relations Association of Ontario, also notes that the "GTA is not experiencing a shortage presently." But Thurston was quick to add that while skilled trades were not in short supply, the same could not be said about construction professionals, many of who are drawn from the trades. He maintains, "We don't have superintendents, estimators, or foreman. That is a huge shortage for the last ten years. The professional side has seen a downturn in the availability of professionals to run the jobs."

We will be seeing an unprecedented demand...

Domenic Mattina, president of the Merit Open Shop Contractors Association of Ontario, concurs, but forecasts that there are challenges on the horizon:

> The baby boomers now are leaving the trades. They held all the knowledge and now you have lots of new entrants into the trades and they still have to learn. In terms of numbers, it's not as much an issue although it is a challenge to find the right skills when they're needed to mentor new entrants, especially given our regulator structure.

Gail Smyth, Executive Director of Skills Canada, Ontario, also sounds a note of caution, highlighting the difficulties in training and retaining skilled trades in the Northern regions of Ontario.

Eastern Canada, likewise, is not suffering general shortages. But, as Stephen Beattey of the St. John Construction Association notes, smaller scale, short-term projects suffer artificial shortages brought about by large number of workers from the Maritimes working in the West; he states:

> When there's long-term work here, they will come home and they will stay home. They will do the job. The minute the job is done and their EI minimalizes, they're on the road again. That's just the nature of the Maritimes. You can sit here if we had a three-week project come up tomorrow the guys who are away aren't coming home. If it's a six months project they'll be here in droves.

He notes that the nature of the traveling Eastern workforce can lead to distortions in labour market information for provincial needs, and, consequently, the way the industry and educators respond to fill shortages that, from a strictly provincial (as opposed to national), might exist only on paper.

> You have to remember EI only looks at who is working. They don't look at where they're working. Travellers are New Brunswick residents. They pay their taxes in New Brunswick. They have their EI claims in New Brunswick. They may be working in Alberta. When EI does their survey, it simply says the guy is working.

But as one moves away from city centers in the East, towards major industrial projects in the North and the West, the scope of the challenge emerges quite clearly.

Dick Heinen, Executive Director of CLAC, alludes to the specific nature of some of those challenges. He notes that "the industry is facing a challenge in getting the right amount of skilled trades at industrial sites in particular. We've seen a variety of real shortages for industrial jobs in particular areas—Northern Alberta, and BC, for instance."

Are there specific labour market questions similar to this sort that aren't being asked, and that would help the industry to more closely measure, and respond to labour needs? Who is best suited to answer those questions?

Blakely cites remote locations as a particular challenge: "I think we have a challenge and I think the challenge is significant" he says. "Go to Muskrat Falls. Go to Kitimat. Go to the major industrial projects in Alberta. Go to some of the less accessible places, all of a sudden that's more difficult."

Manley McLachlan, President and CEO of the BCCA, describes the situation with more urgency: "We are at a stage now, in British Columbia, of high demand. And in twelve to fourteen months we will be seeing an unprecedented demand for industrial trades people."

And it is at these major industrial projects that the challenges described by Sparks are concentrated. As noted in our paper, *Canada's New Industrial Revolution*, the need for labour required to build projects of the scope required by major oil and gas projects in Alberta, natural gas projects in British Columbia, hydroelectric projects, and mining projects across the country, is immense.[30]

And yet despite this huge demand and the significant wages that have accompanied it, challenges remain, particularly on questions related to the social status of the trades.

On the particular question of whether or not there was a social bias against work in the skilled trades, there was almost perfect consensus, though not all agreed about the extent or impact of that bias in relation to labour supply.

Some, like Bob Blakely, believe the bias runs deep:

> The idea of construction as a career makes the blood run cold and most parents think it is dirty, dangerous, at out of the way places with unpleasant people who

30. Kuykendall, Russ. *Signs of the Times: Canada's New Industrial Revolution*. Cardus. 2014.

> chew, spit, and swear a lot. I don't want my son or heaven sake I don't want my daughter even talking to these people let alone considering it as a career. Isn't it really the resort of the incorrigible, the unemployable, and the congenitally stupid?

This sentiment (if not the colour) is shared by the Executive Director of the Canadian Apprenticeship Forum, Sarah Watts Rynard. She states:

> I do think that there is a social bias against the trades. It's a funny thing, because I see it in my own family. I used to think that those kinds of biases came from parents, and they said, "No." But it's funny because I know that I don't have a bias against the trades… [As educators ask] "What are you good at? What do you want to do?" Partly the social bias comes in then, because what do I like, what do I want to do? Well, I want to do the thing that has the higher status or structure in society, maybe something that is more respected.

Or, as Clive Thurston notes: "A trade is a very valuable thing. [But] we've made it a dirty word over the decades."

Others find that this bias is a passing phenomenon; as Neil Tidsbury suggests:

> If people look at occupations in terms of a pecking order, then people that are in the trades don't see themselves at the top of the pecking order. I think to the extent that there is a social bias I think a lot of that rests with the top, the older third, of the demographic in the trades.

Domenic Mattina goes one step further, noting that the trades are becoming a priority career, despite the bias: "The trades are becoming a close first if not a first, in a lot of people's minds these days…The work itself is rewarding."

Stephen Beattey maintains that even if there is a bias, its impact on decision making for potential workers will be overcome by other considerations: "I don't see any bias. They [high school students] are analytical like everybody else, like every other generation. They're weighing their opportunities and their advantages. They're looking at the financial aspects."

SOURCES AND LOCATION OF BIAS AND ITS IMPACT ON ATTRACTION AND RETENTION

If there is a bias, from where does it stem and where will it most likely be encountered? Our interviews noted an array of different sources, but primary among them were parents and educators.

As Gail Smyth noted, any project aimed at overcoming social bias "has to be a partnership between students, teachers, and parents."

Parental sources of bias were described in a number of different ways, but the bias often stemmed from parental desire to see their children work in jobs that used the mind instead of the body. The Dean of Skilled Trades and Business at Mohawk College, a leading College in Ontario, Piero Cherubini argues that "people envision the trades as a dirty job, a heavy job, a physically demanding job. A lot of people thought of the trades as a bust because a parent would prefer to see their kids in a professional environment where they're using their brain instead of their body."

Sometimes this bias stems from parents who worked in the trades in an era where concern for safety was lower, and thus suffered from worn out bodies. Other times it stems from families for whom access to university education is embedded in the cultural fabric of their families. Many of our interviews noted the heavy emphasis on university from parents who were immigrants and wanted their children to have a "better life" than they did. For many parents, the route to the "good life" for their children runs through university. Recent research by the Canadian Apprenticeship Forum supports this, noting that university remains the preferred option for their children, and 52% of parents "believe that trades require hard physical labour."[31]

The same attitudes prevail in the education system. Most interviews noted the inherent difficulty of teachers—required to be university educated and trained—to provide a positive view of vocational careers. Ken Gibson of the Alberta Construction Association frames the issue clearly:

> We've moved to a much more service, white-collar type of economy, and there's a disconnect for the average citizen from physically dexterous type technology, type work, and that's certainly true in our schools. There's a three-legged stool that you have to work on; one is the student, but the second is the parent, and the third is the educator.

Manley McLachlan notes that this extends—even unconsciously—into the world of government and policy makers as well: "Decision-makers both in the government, the school system, and in the university system are overwhelmingly graduates of the university system, so they're more likely to place value on a university education."

And, while investments have been made in colleges and institutes of technology recently, Paul DeJong and Neil Tidsbury both noted that at times the limited number of seats to fulfill the in-class portion of apprenticeships serve as a limit to the industry's ability to train its workers. This was supported by Sarah Watts Rynard, who states that aligning the timing of apprentices' in-school portion of their vocational education with the available seats in the colleges presents a challenge for both educators and industry.

Others note that the funding structures of the educational system are set up in such a way as to naturally disadvantage the trades. Ken Gibson notes that "there's no variation

31. Canadian Apprenticeship Forum. *Apprenticeship Analysis: Parent Perceptions About Careers in the Skilled Trades.* Slide Presentation – October 15, 2014

[in funding] depending on what the course is, but there are certainly strong differences in cost structures." He alludes to the fact that the costs associated with an English class, for instance, are much lower than the costs of a classroom which might require lathes, saws, and other tools associated with the trades.

How might we adjust funding structures and enrolment structures to make trades education more accessible, and more attentive to the needs of students and employers?

Of course, the same could be said for much of the technology that currently litters today's classrooms – computers, tablets, Smartboards, and the like. Yet heavy investment continues to be made in such "tools" for education.

The reason for such investments in educational technology speaks to a deeper assumption about the nature of our economy—namely that it will increasingly become more virtual and technologically driven. A number of interviews noted that this fact has a deep impact on how we perceive the trades. Rosemary Sparks notes:

> We have a generation or two of people who have grown up with no exposure to this kind of work. They've grown up in a world where the messaging for them was all about the knowledge-based economy. It was all about getting a job that is a "white collar" job. It's all about that being meaningful work and everything else being a plan B. That's the social context underpinning our value for careers in the skilled trades. We have a culture that is negative towards this kind of work. But, ultimately, we return to the fact that Canada is a resource-rich country, and our economy is rooted in that. It comes back to the fact that you can't grow an economy, knowledge-based or otherwise, unless you build things.

Blakely, too, notes that deeper cultural shifts buttress the bias, but are now shifting.

> [The assumption is] we're moving on to a tech economy. The "techier" the better. It turns out the tech economy really turned to be a false economy and resource extraction seems to be what looks like it could pave the way to the future. Having said all of that then what kind of people do you need to do it. We do have a couple of—I hesitate to say generations—but a couple of significant "age groups" of people who have university degrees which qualify them to drive a taxi or be a barista and those haven't worked out so well for those people. You've got a bit of a social awakening there.

Heinen noted that much of the troubles stem from a misplaced understanding of work: "As we appreciate manual work less, we begin to see less and less of it. And as

construction work goes out of sight, we almost start to imagine that it's not there. It's out of sight, out of mind."

There was virtual consensus among our interviewees that the social focus away from the trades has led to widespread ignorance of what the trades actually do, and the level of skill and complexity required to work in the trades. As Rosemary Sparks notes, "You can't say to young people, 'You should go into the trades,' because many don't know what that means." Judy Spear, the VP of HR at North America Construction echoes Sparks' concern:

> It's strictly an awareness issue. People are not aware of the opportunities that exist. Even in today's market, sometimes when you talk to people outside the industry, they are surprised that there is even a gap because they are just in a different industry and they are unaware of opportunities in a different world.

Is it time to take the cover off of trades work? Might this find its way into the way projects are designed, so that the complexity and beauty of trades work is visible? How might such an approach apply on remote, or dangerous sites?

And this lack of awareness runs from the banal to the institutionally entrenched. One interviewee noted that the windows in boarding around major projects in cities used to provide a glimpse into the complexity of a construction job site and allow those who would not otherwise come across skilled trades work to see the work. For many, construction work today is something that happens behind high, opaque walls and big fences.

Blakely noted that in places where people do come across construction work, the impression is less than favourable:

> They see the flagman and they think this guy must be an idiot. He's standing out here in the wind, in the cold, in the rain and the snow. They see other people driving back and forth across and they see a Cat or a scraper or something driving back and forth across and think, "wow, that must be monotonous," or they're getting a new home built and they visited twice and they see somebody pounding studs and they think that's construction.

Other interviewees noted that despite significant improvements, many of the stereotypes related to the industry have some basis in reality.

These stereotypes, say almost all interviewees, are caricatured by media portrayals of construction workers. While the smart "geeks" might have made the transition from

laughingstock to unlikely heroes in sitcoms such as "Big Bang Theory," the same cannot be said for construction workers.

Thurston notes that part of the reason for this is the lack of engagement from the industry with media and partially from the pressures of media to sell sensation:

> Construction is not news to the major dailies unless there's a bad story to tell. They don't tell any good stories. Major media, and I've met with senior editors of the Star and others, CBC and that that have told me right to my face; one, your sector doesn't buy enough advertising; and two, you're not news unless something goes wrong.

Is it time for a national campaign promoting the virtues of skilled trades work? Is such a thing desirable? Would anyone listen? How can the industry work together to express their comment to the esteem of the trades? What messages would it send?

CHALLENGES WITHIN, CHALLENGES WITHOUT

These realities lead the conversation in another, more provocative direction. While it is important to note that industry faces significant challenges from the outside, it is also incumbent upon industry to undergo a bit of introspection. A recent study by Stats Canada shows that "long-term apprenticeship completion rates remain low even though the growth in the number of registered apprentices has outpaced the growth in the number of students attending universities."[32]

In an environment where "most [apprenticeship] discontinuers leave their programs within the first two years"[33] what barriers exist *within the industry* which prevent completion rates from being higher?

Two interrelated challenges, ones which fuel perception among youth, are the commodification of construction labour and the subsequent challenge of maintaining a large workforce in a cyclical industry.

Neil Tidsbury notes, "An industrial contractor goes from zero field employees to zero field employees and passes 10,000 in the middle." Contractors themselves feel this challenge and note that it can be a barrier not only to attracting new entrants but also for retaining apprentices and journeypersons. Erica Storteboom, Canadian

32. Laporte, Christine and Mueller, Richard E. *The Completion Behaviour of Registered Apprentices: Who Continues, Who Quits, and Who Completes Programs?* Statistics Canada. March 2011. Accessed at http://www.statcan.gc.ca/pub/11f0019m/2011333/part-partie1-eng.htm
33. Ibid. Accessed at http://www.statcan.gc.ca/pub/11f0019m/2011333/part-partie1-eng.htm#h2_5

director of HR/LR for Kiewit, notes that while they can work with their partners on long-term work development issues, they "can only hire for *this* job." This reality has had an impact, for instance, on apprenticeship completion rates within the industry. The economic challenges of maintaining large workforces in lulls between jobs have, in part, led to a training culture where there are structural disincentives to the type of long-term employer/employee relationships most conducive to apprenticeship completion and long-term workforce development planning. The result has been a context in which government, and labour providers (largely unions), bear the heavy lifting of training workers who, because of the cyclical nature of the industry, could not always maintain a long-term relationship with one employer. Atkinson notes that legitimate concerns about the "poaching" of employees who have been trained by one employer often mask a deeper presumption. The presumption is that "Training is always somebody else's responsibility. I'd argue that it's got to be more the employer's responsibility than anybody else's." Piero Cherubini notes that this a deeply engrained part of the culture in Canada. "I don't think a lot of Canadian companies see that as an investment; investing in training. I think they see it more as an expense, where other cultures, it's more of an investment. That would be a huge culture shift for many companies in our country."

This does not mean all employers fit this description. Many employers invest heavily in their workforces, even if it means lower margins. One contractor notes:

> You might be too busy that day, but the costs of maintaining an idle workforce, or losing skilled workers because of lack of work is high. It just comes down to the right formula. How aggressive you want to be; there may be times where you may have to even buy a job at a certain price just to keep your good guys. It may cost you more to let them go and then bring them back if you don't get them back. Sometimes that's the nature of the business.

Larger firms are better equipped to manage these inflows and outflows of labour, and in fact invest heavily in maintaining and developing their workforce. Erica Storteboom, director of HR/LR for the Kiewit, shared that "between our multiple projects and multiple divisions, we have the ability, the resources, the time and the money, and the willingness to keep track of them, to transfer employees, to re-utilize them, to have the massive database, the sophisticated tools"

Denis Gagnon, Chairman of North America Construction, is blunt about how companies should manage the ebbs and flows: "It's an investment. That's how we look at it. It's, our commitment to those trades peoples, it goes both ways. We want the commitment from them, that they are not going to leave us and we give the same commitment in return."

Michael Atkinson notes that not all companies, however, are equipped to do so: "The industry is composed primarily of small businesses." Likewise, Manley McLachlan

notes that "small companies—either they don't have an HR department that manages the process—[or] they just don't have the cash" and highlights that this also poses challenges to companies looking to take advantage of government grants for workforce development.

But in spite of these challenges, employers who maintain relationships with employees are more successful at completing apprenticeships. Data suggests that "completers are most likely to have worked for only one employer (rather than for multiple employers) during training."[34]

And small companies also have a strong track record of workforce development; 77% of apprentices are employed by firms with less than 100 employees.

But is this sufficient to service the vast labour needs of our major industrial projects?

Unionized companies have managed to overcome these hurdles through creating partnerships, investing with their union partners, and pooling their labour. Blakely notes that this is at the heart of the Building Trades success in training workers:

> The idea of the training trust fund and pooling is putting money in, in order to develop a pool of people who are available to undertake your work. This idea of pooling is what it really is: it's a training tax. It's a training tax for a discrete group of people and a discrete body of employers who are going to pay money in order to do training that they're going to be able to access.

The ability of this model, even with its challenges, to weather the 0-10000-0 transition of field employees of major industrial contractors and to adjust training models to meet market needs provides value to both workers and their employers.

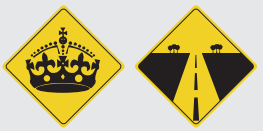
Increasingly this model is being taken and adapted by other labour providers in the industry. CLAC and their contractor partners invest heavily in training funds and programs and in managing a pool of available, skilled labour.

Some note that this model—or a variation thereof—is a natural next step for the entire industry to address some of the coordinating challenges. Ken Gibson notes that Alberta has fledgling labour pools in the non-unionized sector as well: "Contractors that share staff, they bill each other, and they move people around to try and encourage retention, and that would be a tremendous model if we could figure out how to replicate it."

Another recurring issue within the field is the gap between the education system and industry. That gap occurs in a number of ways.

Some of those gaps are structural. Many interviewees noted the difficulty in transferring credits between universities and colleges, or vocational education, despite objec-

34. Ibid



Are there regulatory structures or other barriers which prevent this development? Are there ways to minimize the transaction costs incurred by individual firms to maintain their own systems? How can all labour pools adequately align their own structures with apprenticeship outcomes? What barriers exist within the industry which prevent greater cooperation?

tive, measurable congruencies in material. As Piero Cherubini notes: "We talk about pathways, we talk about credit for prior learning, but we're not, in my opinion, acting anywhere near fast enough to recognize that." He notes that this is true not only between universities and colleges, but within each system itself: "Even between our own colleges, we don't attach as much value to [recognition] as we should in terms of crediting them towards their next level of education. We need to do a better job at this for the benefit of our students."

One example of industry working with educators in a positive way can be found in the varieties of high school apprenticeship programs across the country which provide credit towards both high school diplomas and apprenticeships. Ontario's Youth Apprenticeship Program, Alberta's Registered Apprenticeship Program, and BC's Secondary School Apprenticeship and Accelerated Credit Enrolment in Industry Training (ACE IT) programs are models for integrating employers, associations, and education to prevent replication and to help streamline students into their preferred career path.

Do we need a national accrediting agency? How might that work given the jurisdictional differences in Canada? Who would lead this initiative?

And while many interviewees echoed a concern held by Michael Atkinson, that "it's possible for young people to graduate from high school and never be exposed to any kind of trade option or skill trade occupation," others highlighted a significant number of industry and association initiatives which aim to rectify that.

A joint partnership between PCA and CLAC in Edmonton have contributed significant funds towards training centers, which, as CLAC's Alberta Director Wayne Prins notes, "encourage students to choose the trades as a career. It's an example of how partnership can ensure that high school students receive practical training to hone their skills on real equipment, and get to experience the type of work that is in such high demand in the industry today."

Likewise, the joint training fund of the Alberta CLR and the United Association, Local 488 "purchased up to date welding equipment and partnered with high schools

in Edmonton. They're sending their instructors in to assist the school instructors and they're giving the school instructors unlimited time in the booths at the Training Trust Fund School or College to practice their skills."

A recent initiative called "Project Shop Class," instigated by the Construction Foundation of BC, comprised of contractors, construction associations, suppliers, and educators in British Columbia is looking to raise about nine million dollars to provide equipment and resources for shop classes across the province. In addition, the work of Skills Canada and its provincial affiliates has resulted in tremendous exposure of young people to the trades.

While these initiatives are helpful in achieving industry's goals, are they sufficient for educators to take up trades training in earnest, as an integral part of any school's program of learning? Can industry make the case for why trades should be included on educational, rather than industrial, grounds? Is there a way to align trades classes with broader educational outcome goals?

But who should be providing this type of training: schools or employers? Our interviews did not produce a consensus on this question. Some argued that schools were better suited to focus on core skills – particularly literacy and numeracy – than on particular trades skills and leave employers responsible for training. Others made the case that all students might be better off if they were required to take some form of manual education, though the rationale was not fully developed. Matthew Crawford hints at the grounds for how trades education might be considered a core subject when he argues:

> Being able to think materially about material goods, hence critically, gives one some independence… The craftsman's habitual deference is not toward the New, but toward the distinction between the Right Way and the Wrong Way. However narrow in its application, this is a rare appearance in contemporary life—a disinterested, articulable, and publicly affirmable idea of the good.[35]

Should shop classes be considered core curriculum? Is there an educational, rather than industry rationale for such a proposal? Are these local initiatives enough? Are they preferable to top-down change from ministries of education? Must the two be at odds? How can industry work with government and school boards to ensure proper exposure and relevant to shape schools while continuing to make room for creative, contextually specific initiatives?

35. Crawford, Matthew. *Shop Class as Soul Craft*. The New Atlantis. 2006. Accessed at http://www.thenewatlantis.com/publications/shop-class-as-soulcraft

TURNOVER:THE ELEPHANT IN THE SHOP

But many of our interviewees noted that even if the industry can work in step with educators, it would not solve the primary issue of new entrants which move in and then out of trades work. Why is it that the industry experiences such a high turnover of labour, particularly from those in apprenticeships?

Many of the interviewees noted that, as with any job, some who enter the trades leave because of lack of interest. Stephen Beattey noted that, at times, students "get into the trades and they change their minds halfway through. They continue their evaluation process of what they want to do over time which is not what the previous generations probably did." Atkinson made a similar observation, noting that "we need to make sure that our generational biases don't get in the way; that we truly understand what it is that will attract and retain the newer generations, if that's what our target market is."

In short, there will always be some turnover due to natural competencies and the particular interests of workers. But our interviewees noted that there are also structural issues at play in the way construction workforces are considered to be part of the construction process, and how new entrants are seen to be part of that process.

Why is it that the industry experiences such a high turnover of labour, particularly from those in apprenticeships?

Studies by CAF suggest that one of the key challenges in retaining and completing apprenticeships is ensuring that apprentices see themselves being able to make a real contribution to the work, to be given a clear pathway of learning and development, and to be given meaningful tasks. Along these lines, Sarah Watts Rynard notes:

> The number one way employers could actually encourage and retain young apprentices, is by saying, "Here's what it all looks like, and here's what you're going to learn, and here's what I'm committed to, and I want to see your commitment, too." Do it up front. If there was a common understanding of expectations—"this is what we're teaching you, here's why it's important for you to learn it, and here's what I'm looking for from you"—I think more apprentices would stick around.

Most interviews noted that there will always be a process of learning and that "pushing a broom" is often a test of commitment or work ethic, but they echoed the importance of meaningful work as a means of both developing skills needed on the job as well as maintaining apprentices.

Sean Reid of the PCA also notes the importance of mentorship, and stresses that this, rather than government policies, should lead training and development conversations:

> It's not primarily the numbers that we should be worried about. We need to spend less time talking about how many journeymen and apprentices we have, and more time talking about how we can really mentor and guide apprentices to acquire real

skills, and where older workers can impart their knowledge, and engage younger workers – to make them part of the process of doing the job.

Manley McLachlan echoed that sentiment:

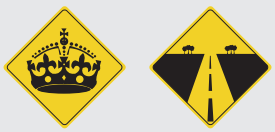
> The fundamental element of apprenticeship is that a journey person mentors the apprentice and teaches them how to do what they've so far only learned in the classroom. Yet we are not providing journey persons or apprentices with leadership training or an organized "train the trainer" experience.

Bob Blakely cited a mentorship program in New Brunswick which trained journeymen to take up this task as part of their job. The program ensures that "every journeyman is going to get a couple of hours about up training which talks about look if you've got an apprentice here's your responsibility. Here's how you get to the teachable moment."

Domenic Mattina stressed that this relationship (particularly in an industry which will soon see journeymen retiring in drove) should be seen as an opportunity for innovation.

> To lose a retiree is nice for them, because they're moving on in life or enjoying their senior years, but you're losing a huge intellectual part of the business. One of the statements we tell any of them is that you can come back anytime and not lift the tool, just be a mentor, be a teacher.

These observations reflect the findings of an Alberta report which notes that "adequate instruction and supervision, and awareness of safety practices"[36] are important not only for productivity on major projects, but also for workforce development. Fayek notes that "a planned and managed rotation of apprentices through key work assignments and types of projects"[37] would assist with workforce regeneration.



Are these programs sustainable? Are employers willing to invest to make such mentorship programs work? Are there ways that associations, unions, educators or even government can support such initiatives? Who should lead?

Another key challenge, particularly in massive industrial projects, is the way the work is organized, and the way in which owners and employers engage with workers. A number of interviews noted that issues of work and life influence the ability to retain and develop young workers. Given the time constraints and pressures of a job site,

36. Fayek, Aminah Robinson, Yorke Mike, and Cherlet, Ron. (2006). Workforce training initiatives for mega project success. Canadian Journal of Civil Engineering, Special Issue on Construction, CSCE, 33(12): 1561-1570. P. 1563 http://www.nrcresearchpress.com/doi/pdf/10.1139/l05-125 p. 1563

37. Ibid

often the relationship between work and life gets skewed, leading some employees to reconsider their long-term commitment to industrial work.

Paul DeJong of the PCA notes that it can also come down into the very way the trades work and how the job site is organized.

> We work with our labour partners to structure work in such a way as to ensure that everyone can work together on projects. We don't believe that artificial barriers should exist on what one worker can do, and what another can't. We want to have a culture where our workers can help each other where it's appropriate. Building walls between different types of work is not progressive as it leaves some people standing around when they could be helping elsewhere. Ultimately this approach is demoralizing to the workers and unproductive for the contractor and owner. For apprentices, it allows them to see the whole project, and how the moving parts fit together.

Research from the Government of Alberta notes that major industrial projects often find workers spending very little productive time on the tools.[38] While the connection between productivity, work satisfaction, and its impact on apprenticeship completion is not a clear one, it is worthy of further exploration.

Both leading labour partners highlighted the impact of these tendencies on workers. Bob Blakely noted that many of his members found the time spent waiting to do actual productive work because of workplace planning issues (he cited the wait times to climb scaffolding in particular), "soul destroying." And Wayne Prins, of CLAC, citing the need to break down and rebuild material which was not suited to the job was "demoralizing." Are such regular occurrences on major industrial projects a barrier to apprenticeship completion and worker retention?

Are the construction industry's productivity issues directly related to its issues with retaining workers? Would being "twice as safe, twice as productive" also result in twice as many workers?

NOTE: This was the theme of the best practices conference of COAA, a major owners association in Alberta. For more, see http://www.coaa.ab.ca/information/BestPractices/BestPracticesConferences/2014BestPracticesConference.aspx

Others noted that that underlying culture of the major projects can also serve as a barrier. Judy Lynn Archer notes:

> Somehow there are times that the industry completely forgets that people actually are human beings. We have lives, we need to go to church on Sunday, we need to maintain that social fabric of life that's important to us and our children, our husbands and wives. It's like "no, no, this big, 6 billion dollar project, that's what's

38. Jergeas, George. Improving Construction Productivity on Alberta Oil and Gas Projects. University of Calgary paper prepared for Alberta Finance and Enterprise. 2009 http://www.albertacanada.com/files/albertacanada/Improving_Construction_Productivity.pdf

important." Not only have they not packaged the industry well, but that certain mentality breeds a perception that the industry is brutal. And it can be.

In other words, items in the construction sector that are seemingly unrelated to workforce development can, in the long run, have a deep impact on trades development. Owners of projects, general contractors, planners, and engineers have an impact on workforce development since the way the work is planned and executed influences workers' capacity to continue in their work.

Blakely notes:

> There needs to be an underlying message with government at all levels that the people who build society are worthwhile. Having done that I think some of the participants within the industry need to say to people we will provide for you a way in which you can have your family, you can have your job, you can have the things that go with rewarding career and we'll find way to facilitate that. Fly in, fly out different schedules is one step. We're not there yet but with the right research maybe we can be there.

Do owners, unions, and contractors need to engage not only with educational leaders, but with municipalities to shape communities which can support careers in the trades? Does retention in the trades require municipal engagement?

Many interviewees noted that if such barriers could be overcome, most workers would find construction work meaningful and an opportunity for workers to "control their destiny." This is especially true for women.

Rosemary Sparks notes that "if you're a single mom for example, a career in the skilled trades can be a huge lifestyle change. You can go from doing three jobs to working one job as a tradesperson. It changes your lifestyle and provides security."

How can owners, contractors, and labour providers work to create job sites which are supportive of such vocational considerations? Does the industry highlight that in its attraction policies? Do job sites work to support the trades as a vocation in their retention strategies?

Judy Lynn Archer agrees, noting that many of the women working through her program say construction careers mean "being in control of your destiny. It's a feeling you cannot buy."

Others stated that it's not only a matter of being in control, but of actually taking part in the planning and execution of the project. Many noted that they were more likely to retain their workers if they were invited to "own" the job and to make suggestions for improvements and processes.

Dick Heinen added that "when tradespeople's ideas about how to tackle a project are listened to, they are more likely to be committed to the project and to stay with the company that valued their opinion; and the project is better for it." Tidsbury agreed, noting that the standard practice of discussions in the job site "toolbox talks" prior to beginning work.

> You effectively build whatever you're going to build in your minds and then you go build it in the field. When you're building the project in your mind before you build it in the field you're going to do it better. That's just that part of the safety culture, and it also drives productivity. But then there are other initiatives where workers are engaged in constructability discussions. Workers' crews come up with better ways of doing things irrespective of what the engineers have to say.

Ownership of a valuable skill and the insight that is associated with that skill was highlighted across the board as one of the key motivations for many in construction. As Atkinson maintains, "Having a trade is something you will have for the rest of your life and is portable to anywhere in the world."

This sentiment echoes Matthew Crawford's insights on the tangible and social value of the trades. While conscious of the irony of citing this in a report by a think-tank, it is nonetheless worth citing:

> Whereas "think tank" is an answer that, at best, buys you a few seconds when someone asks what you do, while you try to figure out what it is that you in fact do, with "motorcycle mechanic" I got immediate recognition… the physical circumstances of the jobs performed by carpenters, plumbers, and auto mechanics vary too much for them to be executed by idiots; they require circumspection and adaptability.[39]

39. Crawford, Matthew. *Shop Class as Soul Craft*. The New Atlantis. 2006. Accessed at http://www.thenewatlantis.com/publications/shop-class-as-soulcraft

CONCLUSION

In 2013, a federal committee studying apprenticeship encouraged "the federal government to change the culture through a broad awareness campaign [about apprenticeship] aimed at young people, guidance counselors, parents and the general public."[40]

While we believe government has a place in this discussion, part of our work at Cardus, and with our partners and round table participants, is to move beyond awareness towards analyzing both the cultural underpinnings of skilled trades work and the ways in which not only government, but industry associations, educational institutions, owners, and labour providers can work together to create structures which can help sustain meaningful work for Canadians; work that is of social value and can contribute to the health and vitality of workers, their companies, the firms which employ them, the Canadian economy, and ultimately the Canadian society as a whole.

40. Recommendation 11 from Report of the Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities. Dec. 2012

APPENDIX A: INTERVIEWEES AND QUESTIONS

INTERVIEWEES

JudyLynn Archer, President and CEO, Women Building Futures

Michael Atkinson, President, Canadian Construction Association

Stephen Beatteay, Secretary, NCLRA, President, St. John Construction Association

Robert Blakely, COO, Building Trades Unions of Canada

Piero Cherubini, Dean, Skilled Trades and Apprenticeship and Dean, Faculty of Business at Mohawk College

Paul DeJong, Executive Director, Progressive Contractors Association of Canada

Sarah Watts Rynard, Executive Director, Canadian Apprenticeship Forum

David Frame, Director of Government Relations, Ontario General Contractors Association

Denis Gagnon, Chairman, North America Construction

Ken Gibson, Executive Director, Alberta Construction Association

Dick Heinen, Executive Director, Christian Labour Association of Canada

Joe Keyes, General Manager, Construction Labour Relations Association of Ontario

Domenic Mattina, Vice President, Mattina Mechanical, Chair, Merit Open Shop Contractors Association of Ontario

Manley McLachlan, President and CEO, British Columbia Construction Association

Catherine Paul, Supply Chain Principal, Spectra Energy

Wayne Prins, Alberta Provincial Director, Christian Labour Association of Canada

Sean Reid, Vice President, Federal and Ontario, Progressive Contractors Association of Canada

Keith Sedlick, Labour Mobility Manager, Kiewit Energy

Gail Smyth, Executive Director, Skills Canada - Ontario

Rosemary Sparks, Executive Director, BuildForce Canada

Erica Storteboom, Canadian Director, Human Resources/Labour Relations, Kiewit Energy

Judy Spear, Director of Human Resources, North America Construction

Clive Thurston, President, Ontario General Contractors Association

Neil Tidsbury, President, Construction Labour Relations, Alberta

INTERVIEW QUESTIONS*

Labour supply

- Are shortages affecting you/your members?
- (If answered yes) We knew shortages were coming 10 years ago – did industry miss something in addressing the challenge?
- (If answered yes) What are the key challenges in meeting this shortage?
- What are you doing to take on the issue?
- Is labour supply a priority?
- How so?
- How would you characterize your/your company's/membership's approach to labour supply? Does it focus on structural issues? If so, how?

Perceptions

- Is there a social bias against the trades?
- If so, where do you see this bias?
- If so, what are the assumptions behind this bias? Are they accurate? If so, describe.
- If you see a social bias, can you point to any structural examples of how the bias has become entrenched? In education? In government policy? In industry? In media?
- What are the key messages sent by your company (gov't etc.) about the trades? What are the key foci used to attract, retain workers?
- Is that message in step with the broader industry?
- Has the perception of the trades changed in the last ten years? If so, how, and why?
- Describe approaches to trades attraction/retention that overcome or address or prevent the social biases in the trades.
- In recruitment, what aspects of trades work does your company emphasize? Money, creativity, challenge? What aspects does your company deemphasize/downplay?
- Does this message change in retention? Do perceptions change when on the job? What aspects are emphasized/deemphasized in retention?

*Note: Interview questions were not executed in survey fashion in chronological order, but served as a means to qualitatively explore the experience and expertise of those interviews.

- Are people aware of the broad range of the construction industry? Is promotion, internal industry mobility, part of the message?
- Has the industry changed in ways that might suggest that some perceptions are outdated? Describe.
- Have other structures (education, labour models, training, and government regulation) followed such changes? Are they ahead, behind?
- Has the industry paid attention to the broader employment context? Is it a strategic priority to influence the employment culture? If so, how?
- Are there cultural influences that stand in the way of/support trades recruitment/retention?

ROUND TABLE PARTICIPANTS

Cameron Alexis	Assembly of First Nations
John-David Alkema	CLAC
Jacqueline Andersen	Women Building Futures
Sarah Anson-Cartwright	Canadian Chamber of Commerce
JudyLynn Archer	Women Building Futures
Michael Atkinson	Canadian Construction Association
Bill Barbosa	Laborers District Council of Ontario
Hank Beekhuis	CLAC
Robert Blakely	Building and Construction Trades of Canada
Joe Blomeley	Canadian Council of Chief Executives
Charlene Bruno	Six Independent Alberta First Nations
Mark Cameron	Hill & Knowlton
Giovanni Cautillo	Ontario Sewer & Watermain Contractors Association
Piero Cherubini	Mohawk College
Matthew Crawford	Institute for Advanced Studies in Culture, University of Virginia
Percy Cummins	Government of Alberta
Jack Davidson	B.C. Road Builders & Heavy Construction Association
Paul De Jong	Progressive Contractors Association of Canada (PCA)
Brian Dijkema	Cardus
Julie Dill	Spectra Energy
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Ken Doyle	Polytechnics Canada
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Tammy Evans	Canadian Association of Women in Construction
Janice Ferguson	Spectra Energy
Mark Fiedorek	Spectra Energy
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Keith Godin	Government of British Columbia
Rod Goy	British Columbia Institute of Technology
Lee Haldeman	SAIT Polytechnic
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Dick Heinen	CLAC
Bryan Hendry	Assembly of First Nations
Philip Hochstein	Independent Contractors and Business Association

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Katherine Jacobs	Ontario Construction Secretariat
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Kerry Jothen	Human Capital Strategies
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Kevin Lee	Canadian Home Builders' Association
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Manley McLachlan	BC Construction Association
John Mollenhauer	Toronto Construction Association
Gerrit Nieuwoudt	ESDC
Robert O'Donnell	Electrical Contractors Association of Ontario Greater Toronto Area
Fred Ogden	Kenaidan Contracting Ltd
Ray Pennings	Cardus
Dennis Perrin	CLAC Saskatoon
Peter Pilarski	Merit Contractors Association
Sabina Postolek	Canadian Association of Petroleum Producers
Wayne Prins	CLAC
Andrew Regnerus	CLAC
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Chris Smillie	Building and Construction Trades of Canada
Gail Smyth	Skills Canada Ontario
Rosemary Sparks	BuildForce Canada
Neil Tidsbury	Construction Labour Relations, Alberta
Vince Versace	Daily Commercial News
Sarah Watts-Rynard	Canadian Apprenticeship Forum
Bruce Wells	Coastal GasLink Pipeline Ltd.

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